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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
PATEL, ASHOKKUMAR B	
ART UNIT	**PAPER NUMBER**
2154	

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09/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/811,161	STRAHM ET AL.	
	Examiner	Art Unit	
	Ashok B. Patel	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 June 2007 and 16 July 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-48* is/are pending in the application.

4a) Of the above claim(s) *12-18 and 33-37* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11,19-32 and 38-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *01/27/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-48 are subject to examination. Claims 12-18 and 33-37 have been cancelled.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/16/2007 has been entered.

Response to Arguments

3. Applicant's arguments filed06/16/2007 have been fully considered but they are not persuasive for the following reasons:

Rejections Under 35 U.S.C. § 102

Applicant's argument:

Claim 1 and its dependent claims

"Doviak fails to teach each and every feature of claim 1. In contrast to claim 1, Doviak teaches a system that instructs how to select a particular network" to connect. *(See,* Doviak at col. 35, ii. 37-39.) Thus, Doviak merely determines which networks are available and selects one of the networks to connect. *(See, id.* at col. 35, i. 58 - col. 36, 1. 34.) Thus, instead of opening several connections, from which one or more connections are selected as an active connection and rest as passive connections, as

recited in claim 1, Doviak simply selects one of the available connections to connect with.

In addition, Doviak fails to teach the claimed, "determine whether to open one or more additional connections; close one or more of the opened connections; and change the selected active connection as a passive connection and select one or more of the passive connections as the active connection."

Examiner's response:

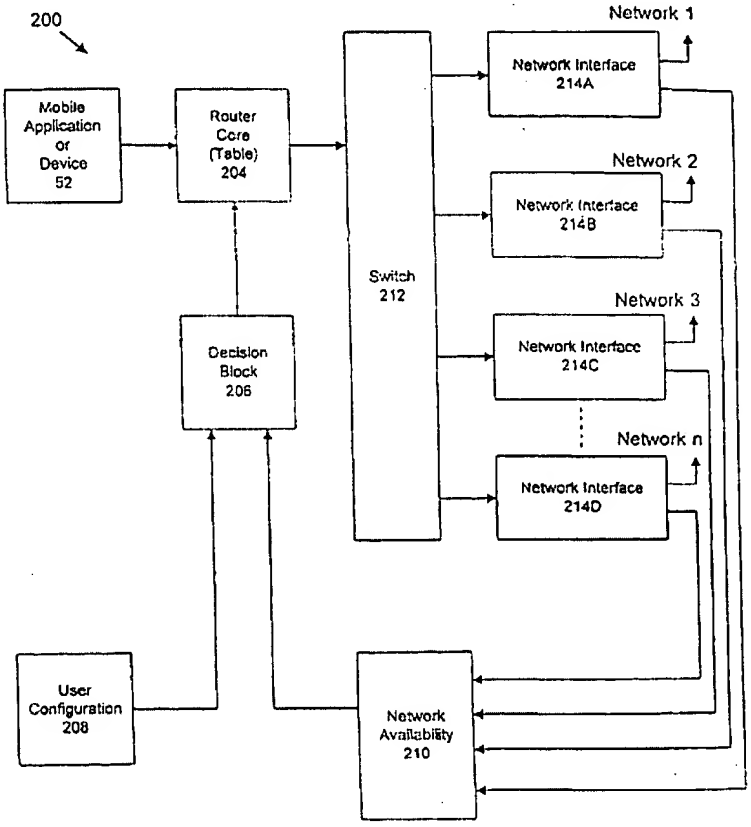

FIG. 30

First of all Examiner would like to present the facts pertaining to the teachings of Doviak in reference to Fig. 30 as stated above and in col. 34, line 19-55, "The Network Availability 210 (see also FIG. 30) is a function which periodically interrogates each

installed Network Interface 214 in the Router 200 and may determine if the Network Interface 214 is installed; **if the Network Interface 214 is properly configured and functioning properly; if the Network Interface 214 is connected to the Network, on-line, and available for sending/receiving messages; and if the Network Interface 214 is in good health. (opening several connections, from which one or more connections are selected as an active connection and rest as passive connections, as recited in claim 1).** The above interrogation process may be accomplished by monitoring a timer tick (provided by the switch microprocessor), which instructs the Network Availability 210 to query each Network Interface 214. When the timer tick occurs, the Network Availability 210 function interrogates each Network Interface 214 as noted above. The status of each Network Interface 214 is then passed to the Decision process 206, which determines what the "next Network" will be if the result of the interrogation indicates that the "current Network" is experiencing transmission problems.

The Network Availability 210 of each Network Interface 214 is determined in a manner specific to the particular interfaced Network. For example, if the Network is CDPD, **the Network Availability 210 interrogates the network to determine if the Network Interface 214 is currently registered with the Network, and therefore active (opening several connections, from which one or more connections are selected as an active connection and rest as passive connections, as recited in claim 1).** Also, in the CDPD network, the Network Availability 214 determines if the Received Signal Strength Indication (RSSI) is sufficient to transmit relatively error-free

data. For example, in the NovaTel CDPD Network Interface a RSSI of -100 dBm will provide for good data transmission qualities. Thus, if the Network Availability 210 function queries the NovaTel CDPD Network Interface for the RSSI, and the response is -110 dBm, then the signal is too weak for error-free transmission, and therefore cannot be used at this time. This information is passed to the Decision process 206 to determine if the "current Network" should remain the "current Network", and if not, to determine what the "next Network" should be."

Additionally, Doviak's teaches at col. 34, line 56-61, "The User Configuration 208 block is used to define user configurable parameters by which the Router Core 204 selects the "current Network" and the "next Network". The Router parameters may include the date and time (e.g., yr-mo-da, hh:mm:ss), and the Network Interface 214 installed in each of the internal slots of the Router 200.", and at col. 35, line 37-44, "The User Configuration 208 function provides the user with the capability to instruct the Router 200 how to select a particular Network. These metrics may include, but are not limited to: which Network is connected to which Router port, time of day and date, priority (switching sequence) of each Network, cost per packet of each Network, and preferred default Network."

Doviak elucidates the claim limitations as follows:

monitoring a predetermined set of parameters corresponding to one or more characteristics of the active and passive connections to determine whether ("Network Availability 210 function interrogates each Network Interface 214 as noted above. The status of each Network Interface 214 is then passed to the Decision process 206,

which determines what the "next Network" will be if the result of the interrogation indicates that the "current Network" is experiencing transmission problems."

Note: Interrogation determines the status of each network interface 214, as such is monitoring, according the user configuration, as such a predetermined set of parameters corresponding to one or more characteristics of the active, that is "current network" and "passive connections" that are not active but being continually interrogated per the user configuration.) to open one or more additional connections close one or more of the opened connections; and change the selected active connection as a passive connection and select one or more of the passive connections as the active connection. (This information is passed to the Decision process 206 to determine if the "current Network" **should remain** the "current Network", and if not, to determine what the "next Network" should be." Thus, selection and reselection is a process of determination that decides that the "the "current Network" should remain the "current Network" and if not, to determine what the "next Network" should be.")

Applicant's argument:

The same arguments as those for claim 1 are presented for the independent claims 7, 19, 23, 28 and 48 and their respective dependent claims.

Examiner's response:

Please refer to the response provided for claim 1.

Applicant's argument:

Claims 8 and 10

The combination of Doviak and Gopalakrishna fails to teach or suggest each and every features of claims 8 and i0. Claims 8 and i0 depend from claim 1, and are allowable over Doviak for at least reasons similar to claim 1.

Examiner's response:

Please refer to the response provided for claim 1.

Gopalakrishna teaches the information is communicated in packets that include aggregated information for more than one application, and (col. 5, line 40-47, FIG. 2 shows interactions among various layers associated with the source system 110 and the target system 111 in generating aggregated packets and in demultiplexing the aggregated packets. A plurality of client sessions 118 and 119 send a plurality of session data packets which are combined into a session layer aggregated packet 120. The client sessions 118 and 119 can be database sessions communicating queries to and responses from a database server.") the method of claim 8 in which, the extent of aggregation for each application in the packets that include aggregated information for more than one application is dependent on an indicator of priority for information exchange associated with each application. (col. 6, line 34-44, "An exemplary data structure of the TLPDU 210 is shown in more detail in FIG. 4. The TLPDU 210 contains a field 222 for storing one or more flags such as a request type flag. Also, the TLPDU 210 contains a field 224 for storing a session number or client identifier. A field 226 stores packet sequence number information, while a field 228 stores the TLPDU size information. The optional field 226 is useful in reassembling the packets into a

predetermined sequence, when more than one transport is used. The field 228 provides more information on the TLPDU size.")

Applicant's argument:

Claim 11

The proposed combination of Doviak and Inoue fails to teach or suggest each and every features of claim 11. For at least reasons similar to claim 1, claim ii is allowable over Doviak.

Examiner's response:

Please refer to the response provided for claim 1.

Inoue teaches the information comprising a command causes the server to contact a remote system, receive a reply from the remote system, and effect a response without transmitting the reply to the device. (Abstract; storing them in the cache server cache until requested by client).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351 (a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-7, 9, 19, 20, 22-25, 27-32, 38-45 and 48 are rejected under 35 U.S.C. 102(e) as being anticipated by Doviak et al. (hereinafter Doviak) (US 6, 198 , 920).

Referring to claim 1,

Doviak teaches a method (Fig. 30) comprising:

at a device (Fig. 30, col. 38, line 19-31, "The Router 200 of the present invention may be used inside a mobile vehicle, or carried by a person in a portable application. Further, the Router 200 may be provided as an external component connected to a portable device (e.g., a laptop computer) or may be implemented within the portable device, such that the portable device and the Router 200 are provided as one integrated unit. Further, the Router 200 may be used in conjunction with, or integrated into measuring and testing equipment, and transmission equipment. Such a remote device may be needed for very remote monitoring applications, such as wildlife studies, etc., necessitating the use of multiple Networks."), opening a first connection to a server; establishing an information exchange protocol for communicating on the first connection (col. 34, line 19-55);

at a device(Fig. 30, col. 38, line 19-31, "The Router 200 of the present invention may be used inside a mobile vehicle, or carried by a person in a portable application. Further, the Router 200 may be provided as an external component connected to a portable device (e.g., a laptop computer) or may be implemented within the portable device, such that the portable device and the Router 200 are provided as one integrated unit. Further, the Router 200 may be used in conjunction with, or integrated into measuring and testing equipment, and transmission equipment. Such a remote device may be needed for very remote monitoring applications, such as wildlife studies, etc.,

necessitating the use of multiple Networks., opening a second connection to the server (col. 34, line 19-55);

selecting, from connections including the second connection, at least one connection to be an active connection and other connections as passive connections (col. 34, line 56 through col. 35, line 43);

communicating information via the active connection using an information exchange protocol based on a type of active connection;. (col. 36 , line 26-34, col. 33, line 14-41, "As noted above, the Network Interfaces 214 provide connections to various types of networks. These networks may be wired (for example Public Switched Telephone Network 58), or wireless (for example Cellular Digital Packet Data (CDPD)). The following non-limiting list includes networks that may be interfaced to the Router 200 by the Network Interfaces 214A-D: private voice radio including conventional and trunked radios (e.g., using MDC 54), Cellular Digital Packet Data (CDPD), Spread Spectrum (e.g., direct sequence and channel-hop), GSM, GPS receiver, satellite transponder, RDI (Ericsson) interface, AMPS, RAM Mobile (Mobitex), RS232, RS485, Angel (AT&T), Asynchronous Transfer Method (ATM), Integrated Services Digital Network (ISDN), public switched telephone network (PSTN (POTS) telephone network), Ethernet, Ardis, Personal Communications Services (PCS), and any other network which is either transparent or operates using a specific protocol.

The specific protocols to the above-listed networks are implemented in the Network Interfaces 214A-D. These protocols may be very different, and therefore incompatible with each other. Additionally, a translation device may be provided in each

Network Interface 214 to translate between IP and the particular network protocol. By providing such a translation device, the Application or Device 52 can use IP data regardless of the particular network the Application or Device 52 is actually using.").

monitoring a predetermined set of parameters corresponding to one or more characteristics of the active and passive connections to determine whether to open one or more additional connections close one or more of the opened connections; and change the selected active connection as a passive connection and select one or more of the passive connections as the active connection. (Doviak in reference to Fig. 30 as stated above and in col. 34, line 19-55, "The Network Availability 210 (see also FIG. 30) is a function which periodically interrogates each installed Network Interface 214 in the Router 200 and may determine if the Network Interface 214 is installed; if the Network Interface 214 is properly configured and functioning properly; if the Network Interface 214 is connected to the Network, on-line, and available for sending/receiving messages; and if the Network Interface 214 is in good health. The above interrogation process may be accomplished by monitoring a timer tick (provided by the switch microprocessor), which instructs the Network Availability 210 to query each Network Interface 214. When the timer tick occurs, the Network Availability 210 function interrogates each Network Interface 214 as noted above. The status of each Network Interface 214 is then passed to the Decision process 206, which determines what the "next Network" will be if the result of the interrogation indicates that the "current Network" is experiencing transmission problems.

The Network Availability 210 of each Network Interface 214 is determined in a manner specific to the particular interfaced Network. For example, if the Network is CDPD, the Network Availability 210 interrogates the network to determine if the Network Interface 214 is currently registered with the Network, and therefore active. Also, in the CDPD network, the Network Availability 214 determines if the Received Signal Strength Indication (RSSI) is sufficient to transmit relatively error-free data. For example, in the NovaTel CDPD Network Interface a RSSI of -100 dBm will provide for good data transmission qualities. Thus, if the Network Availability 210 function queries the NovaTel CDPD Network Interface for the RSSI, and the response is -110 dBm, then the signal is too weak for error-free transmission, and therefore cannot be used at this time. This information is passed to the Decision process 206 to determine if the "current Network" should remain the "current Network", and if not, to determine what the "next Network" should be."

Additionally, Doviak's teaches at col. 34, line 56-61, "The User Configuration 208 block is used to define user configurable parameters by which the Router Core 204 selects the "current Network" and the "next Network". The Router parameters may include the date and time (e.g., yr-mo-da, hh:mm:ss), and the Network Interface 214 installed in each of the internal slots of the Router 200.", and at col. 35, line 37-44, "The User Configuration 208 function provides the user with the capability to instruct the Router 200 how to select a particular Network. These metrics may include, but are not limited to: which Network is connected to which Router port, time of day and date,

priority (switching sequence) of each Network, cost per packet of each Network, and preferred default Network."

Doviak elucidates the claim limitations as follows:

monitoring a predetermined set of parameters corresponding to one or more characteristics of the active and passive connections to determine whether ("Network Availability 210 function interrogates each Network Interface 214 as noted above. The status of each Network Interface 214 is then passed to the Decision process 206, which determines what the "next Network" will be if the result of the interrogation indicates that the "current Network" is experiencing transmission problems.", **Note:** Interrogation determines the status of each network interface 214, as such is monitoring, according the user configuration, as such a predetermined set of parameters corresponding to one or more characteristics of the active, that is "current network" and "passive connections" that are not active but being continually interrogated per the user configuration.) to open one or more additional connections close one or more of the opened connections; and change the selected active connection as a passive connection and select one or more of the passive connections as the active connection. (This information is passed to the Decision process 206 to determine if the "current Network" should remain the "current Network", and if not, to determine what the "next Network" should be.")

Referring to claim 2,

Doviak teaches the method of claim 1 further comprising communicating information configured for the information exchange protocol using the first connection

as the active connection prior to selecting the second connection as the active connection. (col. 36 , line 26-34, "The process of the Decision process 206 checking the User Configuration 208 and the Network Availability 210 continues indefinitely, and is described in detail in FIGS. 33-36. Generally, the process helps to guarantee that the mobile user always has access to a Network for sending and receiving data. This process also allows what is known now as "seamless roaming". This means that the mobile user can move between Networks and continue to have reliable data transmission on the different Networks.").

Referring to claim 3,

Doviak teaches the method of claim 1 in which the second connection is opened prior to establishing the information exchange protocol. (col. 36 , line 26-34, "The process of the Decision process 206 checking the User Configuration 208 and the Network Availability 210 continues indefinitely, and is described in detail in FIGS. 33-36. Generally, the process helps to guarantee that the mobile user always has access to a Network for sending and receiving data. This process also allows what is known now as "seamless roaming". This means that the mobile user can move between Networks and continue to have reliable data transmission on the different Networks.").

Referring to claim 4,

Doviak teaches the method of claim 1 in which a single one of the connections is selected as the active connection. (col. 36 , line 26-34, "The process of the Decision process 206 checking the User Configuration 208 and the Network Availability 210 continues indefinitely, and is described in detail in FIGS. 33-36. Generally, the process

helps to guarantee that the mobile user always has access to a Network for sending and receiving data. This process also allows what is known now as "seamless roaming". This means that the mobile user can move between Networks and continue to have reliable data transmission on the different Networks.").

Referring to claim 5,

Doviak teaches the method of claim 1 in which two or more connections are selected as the active connection.(col. 34, line 37-55, "The Network Availability 210 of each Network Interface 214 is determined in a manner specific to the particular interfaced Network. For example, if the Network is CDPD, the Network Availability 210 interrogates the network to determine if the Network Interface 214 is currently registered with the Network, and therefore active. Also, in the CDPD network, the Network Availability 214 determines if the Received Signal Strength Indication (RSSI) is sufficient to transmit relatively error-free data. For example, in the NovaTel CDPD Network Interface a RSSI of -100 dBm will provide for good data transmission qualities. Thus, if the Network Availability 210 function queries the NovaTel CDPD Network Interface for the RSSI, and the response is -110 dBm, then the signal is too weak for error-free transmission, and therefore cannot be used at this time. This information is passed to the Decision process 206 to determine if the "current Network" should remain the "current Network", and if not, to determine what the "next Network" should be.")

Referring to claim 6,

Doviak teaches the method of claim 1 in which the second connection includes a wireless connection(col. 34, line 36-55).

Referring to claim 7,

Doviak teaches a method (Fig. 30) comprising:

at a device (Fig. 30, col. 38, line 19-31, "The Router 200 of the present invention may be used inside a mobile vehicle, or carried by a person in a portable application. Further, the Router 200 may be provided as an external component connected to a portable device (e.g., a laptop computer) or may be implemented within the portable device, such that the portable device and the Router 200 are provided as one integrated unit. Further, the Router 200 may be used in conjunction with, or integrated into measuring and testing equipment, and transmission equipment. Such a remote device may be needed for very remote monitoring applications, such as wildlife studies, etc., necessitating the use of multiple Networks."), opening a first connection to a server; establishing an information exchange protocol for communicating on the first connection based on a type pf the first connection (col. 34, line 19-55, col. 36 , line 26-34, col. 33, line 14-41, "As noted above, the Network Interfaces 214 provide connections to various types of networks. These networks may be wired (for example Public Switched Telephone Network 58), or wireless (for example Cellular Digital Packet Data (CDPD)). The following non-limiting list includes networks that may be interfaced to the Router 200 by the Network Interfaces 214A-D: private voice radio including conventional and trunked radios (e.g., using MDC 54), Cellular Digital Packet Data (CDPD), Spread Spectrum (e.g., direct sequence and channel-hop), GSM, GPS receiver, satellite transponder, RDI (Ericsson) interface, AMPS, RAM Mobile (Mobitex), RS232, RS485, Angel (AT&T), Asynchronous Transfer Method (ATM), Integrated Services Digital

Network (ISDN), public switched telephone network (PSTN (POTS) telephone network), Ethernet, Ardis, Personal Communications Services (PCS), and any other network which is either transparent or operates using a specific protocol.

The specific protocols to the above-listed networks are implemented in the Network Interfaces 214A-D. These protocols may be very different, and therefore incompatible with each other. Additionally, a translation device may be provided in each Network Interface 214 to translate between IP and the particular network protocol. By providing such a translation device, the Application or Device 52 can use IP data regardless of the particular network the Application or Device 52 is actually using.");

at the device (Fig. 30, col. 38, line 19-31, "The Router 200 of the present invention may be used inside a mobile vehicle, or carried by a person in a portable application. Further, the Router 200 may be provided as an external component connected to a portable device (e.g., a laptop computer) or may be implemented within the portable device, such that the portable device and the Router 200 are provided as one integrated unit. Further, the Router 200 may be used in conjunction with, or integrated into measuring and testing equipment, and transmission equipment. Such a remote device may be needed for very remote monitoring applications, such as wildlife studies, etc., necessitating the use of multiple Networks."), opening a second connection to the server (col. 34, line 19-55);

selecting from the opened connections including the second connection, one or more connections to be an active connection (col. 34 through col. 35, line 43, Doviak in reference to Fig. 30 as stated above and in col. 34, line 19-55, "The Network Availability

210 (see also FIG. 30) is a function which periodically interrogates each installed Network Interface 214 in the Router 200 and may determine if the Network Interface 214 is installed; **if the Network Interface 214 is properly configured and functioning properly; if the Network Interface 214 is connected to the Network, on-line, and available for sending/receiving messages; and if the Network Interface 214 is in good health.** The above interrogation process may be accomplished by monitoring a timer tick (provided by the switch microprocessor), which instructs the Network Availability 210 to query each Network Interface 214. When the timer tick occurs, the Network Availability 210 function interrogates each Network Interface 214 as noted above. The status of each Network Interface 214 is then passed to the Decision process 206, which determines what the "next Network" will be if the result of the interrogation indicates that the "current Network" is experiencing transmission problems.

The Network Availability 210 of each Network Interface 214 is determined in a manner specific to the particular interfaced Network. For example, if the Network is CDPD, the Network Availability 210 interrogates the network to determine if the Network Interface 214 is currently registered with the Network, and therefore active. Also, in the CDPD network, the Network Availability 214 determines if the Received Signal Strength Indication (RSSI) is sufficient to transmit relatively error-free data. For example, in the NovaTel CDPD Network Interface a RSSI of -100 dBm will provide for good data transmission qualities. Thus, if the Network Availability 210 function queries the NovaTel CDPD Network Interface for the RSSI, and the response is -110 dBm, then the signal is too weak for error-free transmission, and therefore cannot be used at

this time. This information is passed to the Decision process 206 to determine if the "current Network" should remain the "current Network", and if not, to determine what the "next Network" should be.");

communicating information configured for the information exchange protocol . that was established for the first connections using the active connection; (col. 36, line 26-34, (col. 36 , line 26-34, col. 33, line 14-41, "As noted above, the Network Interfaces 214 provide connections to various types of networks. These networks may be wired (for example Public Switched Telephone Network 58), or wireless (for example Cellular Digital Packet Data (CDPD)). The following non-limiting list includes networks that may be interfaced to the Router 200 by the Network Interfaces 214A-D: private voice radio including conventional and trunked radios (e.g., using MDC 54), Cellular Digital Packet Data (CDPD), Spread Spectrum (e.g., direct sequence and channel-hop), GSM, GPS receiver, satellite transponder, RDI (Ericsson) interface, AMPS, RAM Mobile (Mobitex), RS232, RS485, Angel (AT&T), Asynchronous Transfer Method (ATM), Integrated Services Digital Network (ISDN), public switched telephone network (PSTN (POTS) telephone network), Ethernet, Ardis, Personal Communications Services (PCS), and any other network which is either transparent or operates using a specific protocol.

The specific protocols to the above-listed networks are implemented in the Network Interfaces 214A-D. These protocols may be very different, and therefore incompatible with each other. Additionally, a translation device may be provided in each Network Interface 214 to translate between IP and the particular network protocol. By providing such a translation device, the Application or Device 52 can use IP data

regardless of the particular network the Application or Device 52 is actually using."); and

monitoring the opened connections for one or more parameters selected from a group consisting of transmittal rate, latency, and cost of transmittal; and (col. 35, line 13-43, "Other user configurable parameters include: the priority of each internal slot, (e.g., 1 to 6) where the slot with priority 1 is the default startup slot and Network; **baud rate** of each slot (a default rate may be set to 9600 bits per second, but may be configured to be any standard **baud rate**, divisible by 300, up to 115.2 kilo bits per second); **cost** per kilobyte per slot (e.g., $0.xx per kilobyte where the least costly slot that **is available and highest priority** will be default); protocol per slot (e.g., none, Point to Point (PPP), Serial Line Internet Protocol (SLIP), Hayes "AT" commands, transparent); slot mode, for example, transparent, PSTN, cellular, IP, receive only; slot name or address or phone number; slot to be used for diagnostics (e.g., default may be set to slot 2); slot muting to be used (e.g., none, PL, DTMF, other); number of retry transmissions per Network Interface (per slot) before declaration of Network Interface failure (e.g., 0-10); if slot Network Interface needs to be configured before it can operate (e.g., y,n); slot to be used for remote display (e.g., default may be set to slot 2); slot to be used for Device or Application 52 (e.g., a connection to a mobile computer; default is slot 1); and frequency at which Network Availability 210 is checked (e.g., default may be set to five seconds). Other user configurable parameters may be introduced and configured as necessary.")

based on the monitored one or more parameters, determining whether to open one or more additional connections; reselect the active connection to optimize the monitored one or more parameters; and close one or more additional connections. Doviak in reference to Fig. 30 as stated above and in col. 34, line 19-55, "The Network Availability 210 (see also FIG. 30) is a function which periodically interrogates each installed Network Interface 214 in the Router 200 and may determine if the Network Interface 214 is installed; if the Network Interface 214 is properly configured and functioning properly; if the Network Interface 214 is connected to the Network, on-line, and available for sending/receiving messages; and if the Network Interface 214 is in good health. The above interrogation process may be accomplished by monitoring a timer tick (provided by the switch microprocessor), which instructs the Network Availability 210 to query each Network Interface 214. When the timer tick occurs, the Network Availability 210 function interrogates each Network Interface 214 as noted above. The status of each Network Interface 214 is then passed to the Decision process 206, which determines what the "next Network" will be if the result of the interrogation indicates that the "current Network" is experiencing transmission problems.

The Network Availability 210 of each Network Interface 214 is determined in a manner specific to the particular interfaced Network. For example, if the Network is CDPD, the Network Availability 210 interrogates the network to determine if the Network Interface 214 is currently registered with the Network, and therefore active. Also, in the CDPD network, the Network Availability 214 determines if the Received Signal Strength Indication (RSSI) is sufficient to transmit relatively error-free data. For

example, in the NovaTel CDPD Network Interface a RSSI of -100 dBm will provide for good data transmission qualities. Thus, if the Network Availability 210 function queries the NovaTel CDPD Network Interface for the RSSI, and the response is -110 dBm, then the signal is too weak for error-free transmission, and therefore cannot be used at this time. This information is passed to the Decision process 206 to determine if the "current Network" should remain the "current Network", and if not, to determine what the "next Network" should be."

Additionally, Doviak's teaches at col. 34, line 56-61, "The User Configuration 208 block is used to define user configurable parameters by which the Router Core 204 selects the "current Network" and the "next Network". The Router parameters may include the date and time (e.g., yr-mo-da, hh:mm:ss), and the Network Interface 214 installed in each of the internal slots of the Router 200.", and at col. 35, line 37-44, "The User Configuration 208 function provides the user with the capability to instruct the Router 200 how to select a particular Network. These metrics may include, but are not limited to: which Network is connected to which Router port, time of day and date, priority (switching sequence) of each Network, cost per packet of each Network, and preferred default Network."

Doviak elucidates the claim limitations as follows:

based on the monitored one or more parameters, determining whether to open one or more additional connections; ("Network Availability 210 function interrogates each Network Interface 214 as noted above. The status of each Network Interface 214 is then passed to the Decision process 206, which determines

what the "next Network" will be if the result of the interrogation indicates that the "current Network" is experiencing transmission problems.", **Note:** Interrogation determines the status of each network interface 214, as such is monitoring, according the user configuration, as such a predetermined set of parameters corresponding to one or more characteristics of the active, that is "current network" and the connections that are not active but being continually interrogated per the user configuration.) to open one or more additional connections, reselect the active connection to optimize the monitored one or more parameters; and close one or more additional connections. (This information is passed to the Decision process 206 to determine if the "current Network" should remain the "current Network", and if not, to determine what the "next Network" should be." Note: reselection is a process of determination that decides that the "the "current Network" should remain the "current Network".)

Referring to claim 9,

Doviak teaches the method of claim 1, 4, or 6 in which the information includes a command that is effected by a module on the server. (col. 30, line 35-48).

Referring to claims 19 and 20,

Claims 19 and 20 are claims to an apparatus comprising a processor and software configured to cause the processor to carry out the method of claim 7. Therefore claims 19 and 20 are rejected for the reasons set forth for claims 19 and 20.

Referring to claim 22,

Claim 22 is a claim to the apparatus comprising a processor and software configured to cause the processor to carry out the method of claim 9. Therefore claim 22 is rejected for the reasons set forth for claim 9.

Referring to claim 23,

Claim 23 is a claim to an article comprising a machine-readable medium that stores machine-executable instructions, the instructions causing a machine to perform the method of claim 1. Therefore claim 23 is rejected for the reasons set forth for claim 1.

Referring to claim 24,

Claim 24 is a claim to an article comprising a machine-readable medium that stores machine-executable instructions, the instructions causing a machine to perform the method of claim 4. Therefore claim 24 is rejected for the reasons set forth for claim 4.

Referring to claim 25,

Claim 24 is a claim to an article comprising a machine-readable medium that stores machine-executable instructions, the instructions causing a machine configuration of claim 20. Therefore claim 25 is rejected for the reasons set forth for claim 20.

Referring to claim 27,

Claim 27 is a claim to an article comprising a machine-readable medium that stores machine-executable instructions, the instructions causing a machine to perform

the method of claim 9. Therefore claim 27 is rejected for the reasons set forth for claim 9.

Referring to claim 28,

Claim 28 is a claim to a system performing the method of claim 1. Therefore claim 28 is rejected for the reasons set forth for claim 1.

Referring to claim 29,

Claim 29 is a claim to a system performing the method of claim 6. Therefore claim 29 is rejected for the reasons set forth for claim 6.

Referring to claim 30,

Claim 30 is a claim to a system including the apparatus of claim 20. Therefore claim 30 is rejected for the reasons set forth for claim 20.

Referring to claims 31 and 32,

Doviak teaches the system of claim 28 in which the device is further configured to select, from the connections, a connection to be a passive connection, and system of claim 31 in which the passive connection is maintained while at least some of the information is communicated using the active connection. (col. 36, line 6-36).

Referring to claim 38,

Doviak teaches the method of claim 1 in which the device detects its own geographic position and compares its geographic position to the range of one of the connections. (col. 36, line 26-34, "The process of the Decision process 206 checking the User Configuration 208 and the Network Availability 210 continues indefinitely, and is described in detail in FIGS. 33-36. Generally, the process helps to guarantee that the

mobile user always has access to a Network for sending and receiving data. This process also allows what is known now as "seamless roaming". This means that the mobile user can move between Networks and continue to have reliable data transmission on the different Networks.")

Referring to claims 39 and 40,

Doviak teaches the method of claim 1 in which the device retains outgoing information until reception is acknowledged, and the method of claim 39 in which the device monitors a buffer that retains outgoing information to determine whether to transmit additional outgoing information.(col. 31, line 9-19)

Referring to claim 41,

Doviak teaches the method of claim 1 in which the device implements software-based application sockets to connect application input/output streams to the server. (Figs. 33-36).

Referring to claims 42, 43 and 44,

Doviak teaches the method of claim 7 in which the parameter comprises transmittal rate, and the method of claim 7 in which the parameter comprises latency, and the method of claim 7 in which the parameter comprises cost of transmittal. (col. 35, line 13-43).

Referring to claim 45,

Doviak teaches a method (Fig. 30) comprising:

at a device (Fig. 30, col. 38, line 19-31, "The Router 200 of the present invention may be used inside a mobile vehicle, or carried by a person in a portable application.

Further, the Router 200 may be provided as an external component connected to a portable device (e.g., a laptop computer) or may be implemented within the portable device, such that the portable device and the Router 200 are provided as one integrated unit. Further, the Router 200 may be used in conjunction with, or integrated into measuring and testing equipment, and transmission equipment. Such a remote device may be needed for very remote monitoring applications, such as wildlife studies, etc., necessitating the use of multiple Networks."), opening a first connection to a server; establishing an information exchange protocol for communicating on the first connection (col. 34, line 19-55);

at a device(Fig. 30, col. 38, line 19-31, "The Router 200 of the present invention may be used inside a mobile vehicle, or carried by a person in a portable application. Further, the Router 200 may be provided as an external component connected to a portable device (e.g., a laptop computer) or may be implemented within the portable device, such that the portable device and the Router 200 are provided as one integrated unit. Further, the Router 200 may be used in conjunction with, or integrated into measuring and testing equipment, and transmission equipment. Such a remote device may be needed for very remote monitoring applications, such as wildlife studies, etc., necessitating the use of multiple Networks., opening a second connection to the server (col. 34, line 19-55);,

selecting, from connections including the second connection, one or more connections to be an active connection and another to be passive connection (col. 34, line 56 through col. 35, line 43, col. 36, line 6-36);

communicating information using the active connection, wherein the same network. Security, and compression protocols and parameters are used for information exchange as for the first connections while maintaining the passive connection. (col. 39, line 26-65, col. 35, line 13-43, col. 33, line 57-col. 34, line 3).

monitoring a predetermined set of parameters corresponding to one or more characteristics of the active and passive connections to determine whether to open one or more additional connections close one or more of the opened connections; and change the selected active connection as a passive connection and select one or more of the passive connections as the active connection. (Doviak in reference to Fig. 30 as stated above and in col. 34, line 19-55, "The Network Availability 210 (see also FIG. 30) is a function which periodically interrogates each installed Network Interface 214 in the Router 200 and may determine if the Network Interface 214 is installed; if the Network Interface 214 is properly configured and functioning properly; if the Network Interface 214 is connected to the Network, on-line, and available for sending/receiving messages; and if the Network Interface 214 is in good health. The above interrogation process may be accomplished by monitoring a timer tick (provided by the switch microprocessor), which instructs the Network Availability 210 to query each Network Interface 214. When the timer tick occurs, the Network Availability 210 function interrogates each Network Interface 214 as noted above. The status of each Network Interface 214 is then passed to the Decision process 206, which determines what the "next Network" will be if the result of the interrogation indicates that the "current Network" is experiencing transmission problems.

The Network Availability 210 of each Network Interface 214 is determined in a manner specific to the particular interfaced Network. For example, if the Network is CDPD, the Network Availability 210 interrogates the network to determine if the Network Interface 214 is currently registered with the Network, and therefore active. Also, in the CDPD network, the Network Availability 214 determines if the Received Signal Strength Indication (RSSI) is sufficient to transmit relatively error-free data. For example, in the NovaTel CDPD Network Interface a RSSI of -100 dBm will provide for good data transmission qualities. Thus, if the Network Availability 210 function queries the NovaTel CDPD Network Interface for the RSSI, and the response is -110 dBm, then the signal is too weak for error-free transmission, and therefore cannot be used at this time. This information is passed to the Decision process 206 to determine if the "current Network" should remain the "current Network", and if not, to determine what the "next Network" should be."

Additionally, Doviak's teaches at col. 34, line 56-61, "The User Configuration 208 block is used to define user configurable parameters by which the Router Core 204 selects the "current Network" and the "next Network". The Router parameters may include the date and time (e.g., yr-mo-da, hh:mm:ss), and the Network Interface 214 installed in each of the internal slots of the Router 200.", and at col. 35, line 37-44, "The User Configuration 208 function provides the user with the capability to instruct the Router 200 how to select a particular Network. These metrics may include, but are not limited to: which Network is connected to which Router port, time of day and date,

priority (switching sequence) of each Network, cost per packet of each Network, and preferred default Network."

Doviak elucidates the claim limitations as follows:

monitoring a predetermined set of parameters corresponding to one or more characteristics of the active and passive connections to determine whether ("Network Availability 210 function interrogates each Network Interface 214 as noted above. The status of each Network Interface 214 is then passed to the Decision process 206, which determines what the "next Network" will be if the result of the interrogation indicates that the "current Network" is experiencing transmission problems.", **Note:** Interrogation determines the status of each network interface 214, as such is monitoring, according the user configuration, as such a predetermined set of parameters corresponding to one or more characteristics of the active, that is "current network" and "passive connections" that are not active but being continually interrogated per the user configuration.) to open one or more additional connections close one or more of the opened connections; and change the selected active connection as a passive connection and select one or more of the passive connections as the active connection. (This information is passed to the Decision process 206 to determine if the "current Network" should remain the "current Network", and if not, to determine what the "next Network" should be.")

Referring to claim 48,

Doviak teaches the method of claim 45 that comprises monitoring the connections for a parameter selected from the group consisting of signal strength, transmittal rate, latency, cost of transmittal, and connection integrity. (col. 35, line 13-43)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 8, 10, 21, 26, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doviak et al. (hereinafter Doviak) (US 6, 198 , 920) in view of Gopalakrishna (US 6,614, 808).

Referring to claims 8 and 10,

Keeping in mind the teachings of Doviak as stated above, Doviak fails to teach the method of claim 1 in which the information is communicated in packets that include aggregated information for more than one application, and the method of claim 8 in which, the extent of aggregation for each application in the packets that include aggregated information for more than one application is dependent on an indicator of priority for information exchange associated with each application.

Gopalakrishna teaches the information is communicated in packets that include aggregated information for more than one application, and (col. 5, line 40-47, FIG. 2 shows interactions among various layers associated with the source system 110 and the target system 111 in generating aggregated packets and in demultiplexing the aggregated packets. A plurality of client sessions 118 and 119 send a plurality of session data packets which are combined into a session layer aggregated packet 120. The client sessions 118 and 119 can be database sessions communicating queries to and responses from a database server.") the method of claim 8 in which, the extent of aggregation for each application in the packets that include aggregated information for more than one application is dependent on an indicator of priority for information exchange associated with each application. (col. 6, line 34-44, "An exemplary data structure of the TLPDU 210 is shown in more detail in FIG. 4. The TLPDU 210 contains a field 222 for storing one or more flags such as a request type flag. Also, the TLPDU 210 contains a field 224 for storing a session number or client identifier. A field 226 stores packet sequence number information, while a field 228 stores the TLPDU size information. The optional field 226 is useful in reassembling the packets into a predetermined sequence, when more than one transport is used. The field 228 provides more information on the TLPDU size.")

Therefore, it would have been obvious to one of ordinary skill in this art at the time the invention was made to implement the teachings of Gopalakrishna into the system of Doviak because, as stated by Gopalakrishna, "The protocols discussed above significantly reduce the number of operating system communication calls.

Correspondingly, the number of communication calls necessary to send and receive a given number of network packets between the source system (concentrator) and the target system (server) processes across the network is also reduced due to packet aggregation. The resource requirements of the server process will be reduced proportional to amount of average aggregation measured. The reduced number of communication calls needed in the Server will improve the scalability of the server in a client-server architecture. For small sized packets, packet aggregation helps improving the network bandwidth due to the reduced packet/frame header overhead at the transport or lower layers. Moreover, in networks with large MTU (Maximum Transmission Unit) aggregating small packets reduce communication latency."

Referring to claim 21,

Claim 21 is a claim to the apparatus comprising a processor and software configured to cause the processor to carry out the method of claim 8. Therefore claim 21 is rejected for the reasons set forth for claim 8.

Referring to claim 26,

Claim 26 is a claim to an article comprising a machine-readable medium that stores machine-executable instructions, the instructions causing a machine configuration of claim 21. Therefore claim 26 is rejected for the reasons set forth for claim 21.

Referring to claim 46,

Keeping in mind the teachings of Doviak as stated above, Doviak fails to teach the method of claim 45 in which the information is communicated in packets that include aggregated information for more than one application.

Gopalakrishna teaches the information is communicated in packets that include aggregated information for more than one application, and (col. 5, line 40-47, FIG. 2 shows interactions among various layers associated with the source system 110 and the target system 111 in generating aggregated packets and in demultiplexing the aggregated packets. A plurality of client sessions 118 and 119 send a plurality of session data packets which are combined into a session layer aggregated packet 120. The client sessions 118 and 119 can be database sessions communicating queries to and responses from a database server.") the method of claim 8 in which, the extent of aggregation for each application in the packets that include aggregated information for more than one application is dependent on an indicator of priority for information exchange associated with each application. (col. 6, line 34-44, "An exemplary data structure of the TLPDU 210 is shown in more detail in FIG. 4. The TLPDU 210 contains a field 222 for storing one or more flags such as a request type flag. Also, the TLPDU 210 contains a field 224 for storing a session number or client identifier. A field 226 stores packet sequence number information, while a field 228 stores the TLPDU size information. The optional field 226 is useful in reassembling the packets into a predetermined sequence, when more than one transport is used. The field 228 provides more information on the TLPDU size.")

Therefore, it would have been obvious to one of ordinary skill in this art at the time the invention was made to implement the teachings of Gopalakrishna into the system of Doviak because, as stated by Gopalakrishna, "The protocols discussed above significantly reduce the number of operating system communication calls. Correspondingly, the number of communication calls necessary to send and receive a given number of network packets between the source system (concentrator) and the target system (server) processes across the network is also reduced due to packet aggregation. The resource requirements of the server process will be reduced proportional to amount of average aggregation measured. The reduced number of communication calls needed in the Server will improve the scalability of the server in a client-server architecture. For small sized packets, packet aggregation helps improving the network bandwidth due to the reduced packet/frame header overhead at the transport or lower layers. Moreover, in networks with large MTU (Maximum Transmission Unit) aggregating small packets reduce communication latency."

7. Claims 11 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doviak et al. (hereinafter Doviak) (US 6, 198, 920) in view of Inoue et al. (hereinafter Inoue) (US 2005/0132049 A1).

Referring to claim 11,

Doviak teaches a method (Fig. 30) comprising:

at a device (Fig. 30, col. 38, line 19-31, "The Router 200 of the present invention may be used inside a mobile vehicle, or carried by a person in a portable application. Further, the Router 200 may be provided as an external component connected to a

portable device (e.g., a laptop computer) or may be implemented within the portable device, such that the portable device and the Router 200 are provided as one integrated unit. Further, the Router 200 may be used in conjunction with, or integrated into measuring and testing equipment, and transmission equipment. Such a remote device may be needed for very remote monitoring applications, such as wildlife studies, etc., necessitating the use of multiple Networks."), opening a first connection to a server; establishing an information exchange protocol for communicating on the first connection based on a type pf the first connection (col. 34, line 19-55, col. 36 , line 26-34, col. 33, line 14-41, "As noted above, the Network Interfaces 214 provide connections to various types of networks. These networks may be wired (for example Public Switched Telephone Network 58), or wireless (for example Cellular Digital Packet Data (CDPD)). The following non-limiting list includes networks that may be interfaced to the Router 200 by the Network Interfaces 214A-D: private voice radio including conventional and trunked radios (e.g., using MDC 54), Cellular Digital Packet Data (CDPD), Spread Spectrum (e.g., direct sequence and channel-hop), GSM, GPS receiver, satellite transponder, RDI (Ericsson) interface, AMPS, RAM Mobile (Mobitex), RS232, RS485, Angel (AT&T), Asynchronous Transfer Method (ATM), Integrated Services Digital Network (ISDN), public switched telephone network (PSTN (POTS) telephone network), Ethernet, Ardis, Personal Communications Services (PCS), and any other network which is either transparent or operates using a specific protocol.

The specific protocols to the above-listed networks are implemented in the Network Interfaces 214A-D. These protocols may be very different, and therefore

incompatible with each other. Additionally, a translation device may be provided in each Network Interface 214 to translate between IP and the particular network protocol. By providing such a translation device, the Application or Device 52 can use IP data regardless of the particular network the Application or Device 52 is actually using.");

at the device (Fig. 30, col. 38, line 19-31, "The Router 200 of the present invention may be used inside a mobile vehicle, or carried by a person in a portable application. Further, the Router 200 may be provided as an external component connected to a portable device (e.g., a laptop computer) or may be implemented within the portable device, such that the portable device and the Router 200 are provided as one integrated unit. Further, the Router 200 may be used in conjunction with, or integrated into measuring and testing equipment, and transmission equipment. Such a remote device may be needed for very remote monitoring applications, such as wildlife studies, etc., necessitating the use of multiple Networks."), opening a second connection to the server (col. 34, line 19-55);

selecting from the opened connections including the second connection, one or more connections to be an active connection (col. 34 through col. 35, line 43, Doviak in reference to Fig. 30 as stated above and in col. 34, line 19-55, "The Network Availability 210 (see also FIG. 30) is a function which periodically interrogates each installed Network Interface 214 in the Router 200 and may determine if the Network Interface 214 is installed; **if the Network Interface 214 is properly configured and functioning properly; if the Network Interface 214 is connected to the Network, on-line, and available for sending/receiving messages; and if the Network Interface 214 is in**

good health. The above interrogation process may be accomplished by monitoring a timer tick (provided by the switch microprocessor), which instructs the Network Availability 210 to query each Network Interface 214. When the timer tick occurs, the Network Availability 210 function interrogates each Network Interface 214 as noted above. The status of each Network Interface 214 is then passed to the Decision process 206, which determines what the "next Network" will be if the result of the interrogation indicates that the "current Network" is experiencing transmission problems.

The Network Availability 210 of each Network Interface 214 is determined in a manner specific to the particular interfaced Network. For example, if the Network is CDPD, the Network Availability 210 interrogates the network to determine if the Network Interface 214 is currently registered with the Network, and therefore active. Also, in the CDPD network, the Network Availability 214 determines if the Received Signal Strength Indication (RSSI) is sufficient to transmit relatively error-free data. For example, in the NovaTel CDPD Network Interface a RSSI of -100 dBm will provide for good data transmission qualities. Thus, if the Network Availability 210 function queries the NovaTel CDPD Network Interface for the RSSI, and the response is -110 dBm, then the signal is too weak for error-free transmission, and therefore cannot be used at this time. This information is passed to the Decision process 206 to determine if the "current Network" should remain the "current Network", and if not, to determine what the "next Network" should be.");

communicating information configured for the information exchange protocol that was established for the first connections using the active connection; (col. 36, line 26-

34, (col. 34, line 19-55, col. 36 , line 26-34, col. 33, line 14-41, "As noted above, the Network Interfaces 214 provide connections to various types of networks. These networks may be wired (for example Public Switched Telephone Network 58), or wireless (for example Cellular Digital Packet Data (CDPD)). The following non-limiting list includes networks that may be interfaced to the Router 200 by the Network Interfaces 214A-D: private voice radio including conventional and trunked radios (e.g., using MDC 54), Cellular Digital Packet Data (CDPD), Spread Spectrum (e.g., direct sequence and channel-hop), GSM, GPS receiver, satellite transponder, RDI (Ericsson) interface, AMPS, RAM Mobile (Mobitex), RS232, RS485, Angel (AT&T), Asynchronous Transfer Method (ATM), Integrated Services Digital Network (ISDN), public switched telephone network (PSTN (POTS) telephone network), Ethernet, Ardis, Personal Communications Services (PCS), and any other network which is either transparent or operates using a specific protocol.

The specific protocols to the above-listed networks are implemented in the Network Interfaces 214A-D. These protocols may be very different, and therefore incompatible with each other. Additionally, a translation device may be provided in each Network Interface 214 to translate between IP and the particular network protocol. By providing such a translation device, the Application or Device 52 can use IP data regardless of the particular network the Application or Device 52 is actually using.");

monitoring a predetermined set of parameters corresponding to one or more characteristics of the active and passive connections to determine whether to open one or more additional connections close one or more of the opened connections; and

change the selected active connection as a passive connection and select one or more of the passive connections as the active connection. (Doviak in reference to Fig. 30 as stated above and in col. 34, line 19-55, "The Network Availability 210 (see also FIG. 30) is a function which periodically interrogates each installed Network Interface 214 in the Router 200 and may determine if the Network Interface 214 is installed; if the Network Interface 214 is properly configured and functioning properly; if the Network Interface 214 is connected to the Network, on-line, and available for sending/receiving messages; and if the Network Interface 214 is in good health. The above interrogation process may be accomplished by monitoring a timer tick (provided by the switch microprocessor), which instructs the Network Availability 210 to query each Network Interface 214. When the timer tick occurs, the Network Availability 210 function interrogates each Network Interface 214 as noted above. The status of each Network Interface 214 is then passed to the Decision process 206, which determines what the "next Network" will be if the result of the interrogation indicates that the "current Network" is experiencing transmission problems.

The Network Availability 210 of each Network Interface 214 is determined in a manner specific to the particular interfaced Network. For example, if the Network is CDPD, the Network Availability 210 interrogates the network to determine if the Network Interface 214 is currently registered with the Network, and therefore active. Also, in the CDPD network, the Network Availability 214 determines if the Received Signal Strength Indication (RSSI) is sufficient to transmit relatively error-free data. For example, in the NovaTel CDPD Network Interface a RSSI of -100 dBm will provide for

good data transmission qualities. Thus, if the Network Availability 210 function queries the NovaTel CDPD Network Interface for the RSSI, and the response is -110 dBm, then the signal is too weak for error-free transmission, and therefore cannot be used at this time. This information is passed to the Decision process 206 to determine if the "current Network" should remain the "current Network", and if not, to determine what the "next Network" should be."

Additionally, Doviak's teaches at col. 34, line 56-61, "The User Configuration 208 block is used to define user configurable parameters by which the Router Core 204 selects the "current Network" and the "next Network". The Router parameters may include the date and time (e.g., yr-mo-da, hh:mm:ss), and the Network Interface 214 installed in each of the internal slots of the Router 200.", and at col. 35, line 37-44, "The User Configuration 208 function provides the user with the capability to instruct the Router 200 how to select a particular Network. These metrics may include, but are not limited to: which Network is connected to which Router port, time of day and date, priority (switching sequence) of each Network, cost per packet of each Network, and preferred default Network."

Doviak elucidates the claim limitations as follows:

monitoring a predetermined set of parameters corresponding to one or more characteristics of the active and passive connections to determine whether ("Network Availability 210 function interrogates each Network Interface 214 as noted above. The status of each Network Interface 214 is then passed to the Decision process 206, which determines what the "next Network" will be if the result of the interrogation

indicates that the "current Network" is experiencing transmission problems.", **Note:** Interrogation determines the status of each network interface 214, as such is monitoring, according the user configuration, as such a predetermined set of parameters corresponding to one or more characteristics of the active, that is "current network" and "passive connections" that are not active but being continually interrogated per the user configuration.) to open one or more additional connections close one or more of the opened connections; and change the selected active connection as a passive connection and select one or more of the passive connections as the active connection. (This information is passed to the Decision process 206 to determine if the "current Network" should remain the "current Network", and if not, to determine what the "next Network" should be.")

Doviak fails to teach the information comprising a command causes the server to contact a remote system, receive a reply from the remote system, and effect a response without transmitting the reply to the device.

Inoue teaches the information comprising a command causes the server to contact a remote system, receive a reply from the remote system, and effect a response without transmitting the reply to the device. (Abstract; storing them in the cache server cache until requested by client).

Therefore it would have been obvious to one of ordinary skill in this art at the time the invention was made to combine the teaching of Doviak and Inoue because they both deal with network communications between a client and server. Furthermore, the teaching of Inoue to contact a remote system, receive a reply from the remote system,

and effect a response without transmitting the reply to the device would result in a more rapid response to future requests by caching material that it is anticipated will be requested in the immediate future.

Referring to claim 47,

Doviak teaches the method of claim 45 in which the information comprises a command for a module on the server (col. 30, line 35-48).; and fails to teach the method comprises effecting the command by contacting a remote server, receiving a reply from the remote server and effecting a response without transmitting the reply to the device.

Inoue teaches the information comprising a command causes the server to contact a remote system, receive a reply from the remote system, and effect a response without transmitting the reply to the device. (Abstract; storing them in the cache server cache until requested by client).

Therefore it would have been obvious to one of ordinary skill in this art at the time the invention was made to combine the teaching of Doviak and Inoue because they both deal with network communications between a client and server. Furthermore, the teaching of Inoue to contact a remote system, receive a reply from the remote system, and effect a response without transmitting the reply to the device would result in a more rapid response to future requests by caching material that it is anticipated will be requested in the immediate future.

Conclusion

Examiner's note: Examiner has cited particular columns and line numbers in the

references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ashok B. Patel whose telephone number is (571) 272-3972. The examiner can normally be reached on 6:30 am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan A. Flynn can be reached on (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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